

SB-516 - Application No. 10/530,967
Response to Office action 4/19/2006
Response submitted July 18, 2006

REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 21-31 remain in the application. Claim 30 has been amended.

More specifically, claim 30 has been amended in light of the Examiner's objection. The suggested change has been adopted. The specification and the claims are believed to meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved.

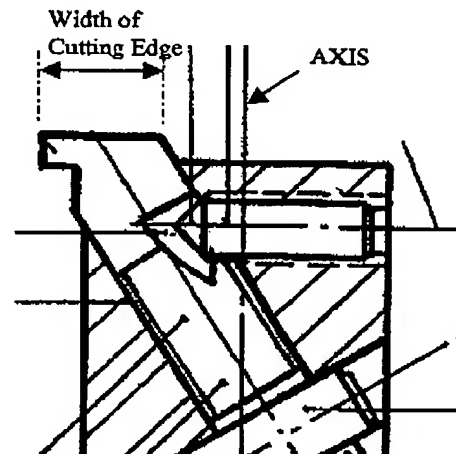
We now turn to the art rejection, in which claims 21, 22, 24-26, 28, and 31 have been rejected as being obvious over the combined teachings of Esslinger (EP 565 907 A1) and Andrews, Sr. (US 3,735,461, "Andrews") under 35 U.S.C. § 103. We respectfully traverse.

To begin with the claimed invention, we deal here with a cutting tool for boring into solid material. The tool is configured for that functionality in that the front cutting edge of the cutting head reaches "as far as the drill axis." In other words, only a cutting edge that cuts transversely as far as the drill axis can be used to bore solid. A forward cutting edge that does not reach to the drill axis would leave material in the center that would prohibit forward movement of the tool.

SB-516 - Application No. 10/530,967
Response to Office action 4/19/2006
Response submitted July 18, 2006

None of the references cited by the Examiner are suitable for such functionality. The references deal with cutting tools for piercing, top-saw groove cutting, undercutting, for cutting inner threads, or for lathe turning, for inside chamber formation, etc.. All of the teachings in the cited prior art have to do with tools that are only suitable for workpieces that have been pre-bored. None of the teachings deal with boring into non-pre-bored, solid material.

Esslinger, for example, has a forward cutting edge extending transversely to the axis and that does not reach to the axis. If one were to attempt to bore into non-pre-bored material (solid), the resulting cut would in effect be a doughnut cut and the tool would be prevented from moving forward once the center of the bit reached the surface of



the work piece. Besides, the off-centered cutting insert would make it extremely difficult to maintain a proper axis alignment during the cutting operation.

More importantly, however, Esslinger himself makes it clear that his tool is suited only for processing other than solids boring. For example, the text on col. 2, lines 43, would read, in English translation:

It is thereby possible to provide the plunge cutting bodies in single or dual blade embodiments of free cutting bodies for a variety of undercuts (O-ring, hydraulic chamfer, undercut . . .) and for a variety of material to be processed and also of a variety of cutting materials.

Col. 2, lines 47-54 (in translation).

SB-516 - Application No. 10/530,967
Response to Office action 4/19/2006
Response submitted July 18, 2006

Due to the frictional clamping and the positive lock, these plunge cutting tools also allow grooves to be undercut and chambered, and even lathe and milling operations to be performed.

Col. 3, lines 2-5 (in translation).

Esslinger deals with top-cutting, undercutting, and similar milling procedures.

Esslinger is not suited for solids boring as noted above. The Examiner noted several "shortcomings" of the Esslinger teaching, to wit:

However, Esslinger fails to teach the front cutting edge being disposed at an angle of less than 90° with respect to the drill axis and preferably of about 89.5° , the lateral cutting edge being disposed at an angle of more than 90° with respect to the drill axis and preferably of about 91° , and the rear cutting edge being disposed at an angle of less than 90° with respect to the drill axis and preferably of about 89° .

Office action, page 3, lines 7-11. The Examiner, however, failed to point to the crucial fact that Esslinger does not teach a front cutting edge that reaches to (and beyond) the drill axis.

The secondary reference Andrews does not cure this shortcoming. There, the cutting Insert may be aligned at different orientations relative to the drill axis. In any of the orientations, the "front" cutting edge is located laterally of the tool body. The front cutting edge does not reach to the axis.

The reason, of course, is that Andrews belongs to the same type of tool as does the tool of the primary reference Esslinger. Andrews is suitable only for lathe turning and similar systems ("for turret lathes, lathes, automatic turning machines, and similar tools." Andrews, abstract). Andrews does not properly modify Esslinger to arrive at

SB-516 - Application No. 10/530,967
Response to Office action 4/19/2006
Response submitted July 18, 2006

the claimed invention. Claim 21 is clearly not obvious over the references Esslinger and Andrews.

The rejection outlined on pages 4-6 of the Office action is similarly flawed. There, claims 21-26 have been rejected as being obvious over the combined teachings of Hunt (US 5,259,709) and Andrews, Sr. (US 3,735,461, "Andrews") under 35 U.S.C. § 103. We respectfully traverse.

Hunt deals with a "grooving or threading tool." Hunt's tool is suitable for grooving a work piece (either on an outer surface or inside a bore) by drawing the cutting projection across and thus scoring or shaving the surface. Hunt's tool is also suitable for cutting a thread inside a bore. The projection 17 is suited for cutting (grooving, threading) various shapes. Reference is had to col. 3, lines 22-24; col. 3, lines 38-44; Fig. 1, Fig. 3, and Fig. 4.

Hunt does not show a front cutting edge that reaches to ("cuts as far as") the tool axis. Hunt thus lacks an essential feature of claim 21. The shortcoming of the primary reference cannot be cured by the secondary reference Andrews, because Andrews does not show or suggest such a feature either. The arguments concerning the combination of Esslinger with Andrews are applicable in this case as well, and reference is had to the remarks above. Claim 21 is clearly not obvious over the references Hunt and Andrews.

The rejection of claims 29 and 30 over the combination of Esslinger with Andrews, and further in view of Iwasaki (JP 101 56 604 A) is respectfully traversed as well.

SB-516 - Application No. 10/530,967
Response to Office action 4/19/2006
Response submitted July 18, 2006

The further reference Iwasaki does not even provide for a tool that can be used for undercutting or other inner work piece processing. Iwasaki is suitable only for exterior surface processing and it certainly does not have a transverse cutting edge that cuts at the tool axis. The reference does not cure the shortcomings of the primary rejection, as pointed out above.

In summary, none of the references, whether taken alone or in any combination, either show or suggest the features of claim 21. Claim 21 is, therefore, patentable over the art and since all of the dependent claims are ultimately dependent on claim 21, they are patentable as well.

The indicated allowability of claim 27 is appreciatively noted. We did not rewrite the claim in independent form at this time, because it is believed that claim 21 is patentable.

In view of the foregoing, reconsideration and allowance of claims 21-31 are solicited.

Respectfully submitted,



For Applicant(s)

WERNER H. STERMER
REG. NO. 34,956

WHS:bh

July 18, 2006

Lerner Greenberg Stermer LLP
P.O. Box 2480
Hollywood, Florida 33022-2480
Tel.: 954-925-1100
Fax: 954-925-1101